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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/195,595	11/18/1998	JUNJI OISHI	MAT-6750	4491

7590 01/26/2004

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EXAMINER

TUGBANG, ANTHONY D

ART UNIT	PAPER NUMBER
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3729

DATE MAILED: 01/26/2004

12

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/195,595

Applicant(s)

OISHI ET AL.

Examiner

A. Dexter Tugbang

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10 July 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-46 is/are pending in the application.
- 4a) Of the above claim(s) 1-12 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 13-46 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
- a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 7.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

1. Applicant's election of the invention of Group II, Claims 13-46 in Paper No. 10 is acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)).
2. Claims 1-12 have been withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention, there being no allowable generic or linking claim. Election was made **without** traverse in Paper No. 10.

Specification

3. The abstract of the disclosure is objected to because the abstract is not directed to the claimed invention, i.e. method. Correction is required. See MPEP § 608.01(b).
4. Applicant is reminded of the proper content of an abstract of the disclosure.

A patent abstract is a concise statement of the technical disclosure of the patent and should include that which is new in the art to which the invention pertains. If the patent is of a basic nature, the entire technical disclosure may be new in the art, and the abstract should be directed to the entire disclosure. If the patent is in the nature of an improvement in an old apparatus, process, product, or composition, the abstract should include the technical disclosure of the improvement. In certain patents, particularly those for compounds and compositions, wherein the process for making and/or the use thereof are not obvious, the abstract should set forth a process for making and/or use thereof. If the new technical disclosure involves modifications or alternatives, the abstract should mention by way of example the preferred modification or alternative.

The abstract should not refer to purported merits or speculative applications of the invention and should not compare the invention with the prior art.

Where applicable, the abstract should include the following:

- (1) if a machine or apparatus, its organization and operation;

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- (2) if an article, its method of making;
- (3) if a chemical compound, its identity and use;
- (4) if a mixture, its ingredients;
- (5) if a process, the steps.**

Extensive mechanical and design details of apparatus should not be given.

5. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

The following title is suggested: A Method of Manufacturing an Electronic Component Unit.

Claim Rejections - 35 USC § 112

6. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter, which the applicant regards as his invention.

7. Claims 13-46 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In Claim 13, the latter recitation of “a connecting area” (line 7) is unclear if this is referring to the previous recitation of “a connecting area” (line 4). How many “connecting areas(s)” are there in the surface that is being roughened? The same problems above also occur in dependent Claims 15-19.

In Claim 14, it is unclear from the disclosure what is meant by the phrase of “electroconductive rubber piece” (line 3). The term “electroconductive” and the term “rubber”, completely contradict each other because the composition of rubber material itself is, in general, not electroconductive. Thus, how is it even possible to even have a rubber piece test for

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electrical conductivity? It is further noted that the specification (page 18) is even more confusing to the extent that the electroconductive rubber piece is disclosed as being used for short-circuiting, not for providing any conductivity or providing any conductivity test. Therefore, the above phrase renders the claims as being vague, indefinite, confusing and misleading.

NOTE: No art rejections have been applied to Claim 14 and Claims 15-46, which are dependent from thereof, since there are a great deal of confusion and uncertainty as to the proper interpretation of the limitations of claims. Therefore, it would not be proper to reject such claims on the basis of prior art. See MPEP 2173.06.

In Claim 20, the latter recitation of “an electrode” (line 4) is unclear if this is referring the previous recitation of “an electrode” (line 6 of Claim 13). How many electrode(s) are there?

In Claim 35, it is unclear with the disclosure what is meant by the phrase of a “nozzle...said substrate” (lines 2-3). The specification (page 25) states that the nozzle has an opening that is larger than a width of the substrate. Yet, the claim language above implies that the nozzle width is larger than the substrate in its entirety. Thus, the claim contradicts the specification rendering the claim as being vague, indefinite and misleading.

In Claim 46, it is unclear from the disclosure what is meant by “free from atmospheric air” (lines 2-3). The recitation excludes the electronic component from ever being in an atmosphere with air, which would also exclude the component from operations after manufacturing where operation of the electronic component would inevitably be in an environment of atmosphere air. Therefore, the above recitation renders the claim as being vague, indefinite, confusing and misleading.

Claim Rejections - 35 USC § 102

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

9. Claim 13, as best understood, is rejected under 35 U.S.C. 102(b) as being anticipated by Japanese Patent Publication JP 8-335605, referred to hereinafter as JP'605.

NOTE: The disclosure of JP'605 appears to be fully incorporated in U. S. Patent 5,816,478, being that each reference has identical Figures.

JP'605 discloses a method of manufacturing an electronic component unit comprising: forming a conductive pattern 14, 16, 17, 18, 19 on a surface of a substrate 13 (in Fig. 1); roughening a surface of a connecting area (anyone of the surfaces of 14, 16, 17, 18, 19) of the conductive pattern; and connecting an electrode (pad 11) of an electronic component 27 to the surface of the connecting area with an electroconductive adhesive (solder 12).

Claim Rejections - 35 USC § 103

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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11. Claim 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over JP'605 in view of Japanese Patent Publication JP 2-308597, referred to hereinafter as JP'597, and Japanese Patent Publication JP-1-166956, referred to hereinafter as JP'956.

JP'605 discloses the claimed manufacturing method as previously discussed. JP'605 does not teach that a thick-film printing process forms the circuit pattern and the connecting area is roughened by a dry etching treatment.

JP'597 teaches that is known in the art to form circuit patterns by a thick-film printing process and JP'956 teaches that it is known in the art to roughen a connecting area on the surface of the conductive pattern by a dry etching treatment of sanding or polishing.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the method of JP'605 by utilize the well known techniques of the thick-film printing process of JP'597 and the dry etching treatment of JP'956, to positively pattern the conductor in producing the conductive pattern and additionally provide superior adhesion or bonding characteristics achieved through roughening (see Purpose of each).

Conclusion

12. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

a. The reference cited to Burns et al (U. S. Patent 3,762,040) teaches that it is known the art of manufacturing circuit patterns to press a rubber piece 33 (in Fig. 4).

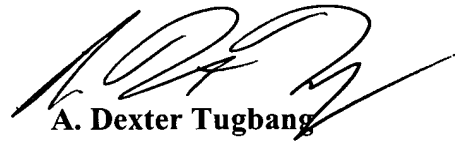
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13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to A. Dexter Tugbang whose telephone number is 703-308-7599.

The examiner can normally be reached on Monday - Friday 7:00 am - 3:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Peter Vo can be reached on 703-308-1789. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9302.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0858.



A. Dexter Tugbang
Primary Examiner
Art Unit 3729

January 20, 2004